

REMARKS

This is intended as a full and complete response to the Final Office Action dated December 14, 2004, having a shortened statutory period for response extended one month to and including April 14, 2005. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-64 have been canceled without prejudice. New claims 65-84 have been added to more clearly claim aspects of the invention and do not constitute new matter.

Claims 55, 57-58, 60-61, and 63-64 stand rejected under 35 U.S.C. § 102(e) as being anticipated by *White et al.* (U.S. Patent No. 6,286,230). The Examiner states that *White, et al.* discloses a first and second chamber (elements 10A and 10B), the first and second chamber each having one or more processing chambers attached thereto (Fig. 1), a load lock (elements 6 and 8) and two or more transition chambers which separate the first and second chamber (elements 28, 30, 32, and 34), the transition chambers each comprising a heating element disposed therein (Fig. 4, step 106). Applicants submit that the rejection of claims 55, 57-58, 60-61, and 63-64 is moot as Applicants have canceled claims 55, 57-58, 60-61, and 63-64.

Claims 1-54, 56, 59, and 62 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *White, et al.* in view of *Stevens, et al.* (U.S. Patent No. 6,375,746) on grounds that while *White, et al.* fails to specifically disclose partially preheating the wafer in the load lock and transition chamber, *Stevens, et al.* discloses partially preheating the wafer in the load lock and transition chamber. Applicants submit that the rejection of claims 1-54, 56, 59, and 62 is moot as Applicants have canceled claims 1-54, 56, 59, and 62.

Regarding new claim 65, Applicants submit that *White, et al.* discloses a system (Figure 2) including load locks 6, 8, processing chambers 10A, 10B, valves 28, 30 between the load locks and processing chambers, valves 30, 32 between the processing chambers, and a substrate transfer mechanism to transfer substrates between the load locks and processing chambers through the valves (column 5, lines 28-30). However, *White, et al.* does not describe or suggest a buffer chamber

enclosing a first robot, a transfer chamber enclosing a second robot, or two or more transition chambers separating a transfer chamber and a buffer chamber, wherein each transition chamber comprises a heating element. *Stevens, et al.* shows a system (Figure 2) including a transfer chamber including a robot, a processing chamber, a load lock with a heating element. However, *Stevens, et al.* does not describe or suggest a buffer chamber enclosing a robot or two or more transition chambers separating a transfer chamber and a buffer chamber, wherein each transition chamber comprises a heating element.

Thus, *White, et al.* and *Stevens, et al.*, individually or in combination, do not teach, show, or suggest a semiconductor wafer processing system, comprising a buffer chamber enclosing a first robot, one or more processing chambers attached to the buffer chamber, a transfer chamber enclosing a second robot, one or more processing chambers attached to the transfer chamber, wherein at least one vapor deposition chamber is attached to the transfer chamber, a load lock comprising a heating element and attached to the buffer chamber, and two or more transition chambers which separate the transfer chamber and the buffer chamber, the transition chambers each comprising a heating element disposed therein, as recited in new claim 65. Applicants respectfully request allowance of new claim 65 and of claims 66-73, which depend thereon.

Applicants further submit that *White, et al.* and *Stevens, et al.*, individually or in combination, do not provide or suggest all of the limitations of claim 74, as neither *White, et al.* nor *Stevens, et al.* describes or suggests a buffer chamber enclosing a robot, or two or more transition chambers separating a transfer chamber and a buffer chamber, wherein each transition chamber comprises a heating element. Furthermore, *White, et al.* and *Stevens, et al.*, individually or in combination, do not provide or suggest two transition chambers each comprising two wafer holders.

Thus, *White, et al.* and *Stevens, et al.*, individually or in combination, do not teach, show, or suggest a semiconductor wafer processing system, comprising a buffer chamber enclosing a first robot, one or more processing chambers attached to the buffer chamber, a transfer chamber enclosing a second robot, one or more processing chambers attached to the transfer chamber, wherein at least one vapor deposition

chamber is attached to the transfer chamber, a first load lock comprising a heating element and attached to the buffer chamber, and two transition chambers which separate the transfer chamber and the buffer chamber, the transition chambers each comprising a heating element and two wafer holders disposed therein, as recited in new claim 74. Applicants respectfully request allowance of new claim 74 and of claims 75-80, which depend thereon.

Regarding new claim 81, Applicants submit that new claim 81 is patentable over *White, et al.* and *Stevens, et al.*, individually and in combination, as neither *White, et al.* nor *Stevens, et al.* teaches or suggests partially preheating a wafer in a load lock and partially preheating a wafer in a transition chamber. *White, et al.* describes completing substrate preheating in load lock 6 and then transferring the substrate into a processing chamber (column 7, lines 11-39) but does not describe or suggest a transition chamber or partially preheating the substrate in a transition chamber in addition to preheating the substrate in a load lock. *Stevens, et al.* describes preheating in a load lock but does not describe or suggest processing a wafer in a system including a transition chamber comprising a heating element or partially preheating a wafer in a transition chamber. Applicants submit that *Stevens, et al.* teaches away from partially preheating a wafer in both a transition chamber and a load lock as *Stevens, et al.* indicates that the capability to heat the wafer in the load lock increases the system throughput because the wafer can be moved directly from the load lock into a processing chamber without moving the wafer into an intermediate preheating station (abstract, column 3, lines 1-7).

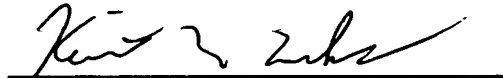
Thus, *White, et al.* and *Stevens, et al.*, individually or in combination, do not teach, show, or suggest a method of processing a wafer in a semiconductor wafer processing system, comprising introducing a wafer into a first load lock of a semiconductor wafer processing system, the semiconductor wafer processing system comprising a buffer chamber enclosing a first robot, one or more processing chambers attached to the buffer chamber, a transfer chamber enclosing a second robot, one or more processing chambers attached to the transfer chamber, wherein at least one vapor deposition chamber is attached to the transfer chamber, a first load lock comprising a heating element and attached to the buffer chamber, and two or more transition chambers which separate the transfer chamber and the buffer chamber, the

transition chambers each comprising a heating element disposed therein, partially preheating the wafer in the first load lock, transferring the wafer into one of the transition chambers and partially preheating the wafer in the transition chamber, transferring the wafer into one of the processing chambers attached to the transfer chamber, and then performing a vapor deposition on the wafer in the processing chamber, as recited in new claim 81. Applicants respectfully request allowance of new claim 81 and of claims 82-84, which depend thereon.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

Having addressed all issues set out in the Final Office Action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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